

IN THE CLAIMS:

Please ~~amend~~ the claims such that the pending claims read as follows:

Claims 1 to 23 (Cancelled)

24. (Original) A method of operating a file system, said file system including an active map of information indicating in-use and free blocks, said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said method including

making write allocation decisions in response to a copy of an earlier active map included in at least one of said snapshots.

25. (Original) A method of operating a file system, said file system including an active map of information indicating in-use and free blocks, said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said method including

computing a summary map in response to at least one copy of an earlier active map included in at least one of said snapshots.

26. (Original) A method as in claim 25, including

making write allocation decisions in response to said summary map.

27. (Original) A method as in claim 25, wherein

said set of snapshots includes at least two said snapshots; and

a result of said computing includes an indicator of a union of all blocks indicated

by at least two said copies of earlier active maps included in said set of snapshots.

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28. (Original) A method as in claim 25, wherein

said set of snapshots includes at least two said snapshots; and

said computing includes performing a bitwise logical operation on at least two

said copies of earlier active maps included in said set of snapshots.

29. (Original) A method as in claim 25, including

making write allocation decisions both in response to a current active map and in

response to said summary map.

30. (Original) A method as in claim 25, including

computing a combination of a current active map and said summary map; and

making write allocation decisions in response to a result of said computing.

31. (Original) A method as in claim 25, including, for a selected portion of said summary map
identifying a set of snapshots created since a recent update of said selected portion; and
updating said selected portion in response to only a most recent one of said snapshots.

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32. (Original) In a file system including an active map of information indicating in-use and free blocks, said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said file system maintaining a summary map in response to at least one copy of an earlier active map included in at least one of said snapshots, a method of updating said summary map, said method including
receiving a request to delete a selected snapshot;
for a block used by said selected snapshot, indicating said block is free in said summary map only in response to a snapshot just prior to said selected snapshot and in response to a snapshot just after said selected snapshot.

33. (Original) A method as in claim 32, wherein said indicating frees said block only when both
said block is unused by said snapshot just prior to said selected snapshot; and
said block is unused by said snapshot just after said selected snapshot.

34. (Original) A method as in claim 32, wherein said snapshot just after said selected snapshot corresponds to an active file system.

35. (Original) In a file system including an active map of information indicating in-use and free blocks, said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said file system maintaining a summary map in response to at least one copy of an earlier active map included in at least one of said snapshots, a method of updating said summary map, said method including

selecting a set of blocks maintained by said file system for which to perform a write allocation operation;

updating only a portion of said summary map corresponding to said set of blocks, in response to said selecting; and

performing said write allocation operation in response to said updated summary map.

36. (Original) In a file system including an active map of information indicating in-use and free blocks, and said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said file system maintaining a summary map in response to at least one copy of an earlier active map included in at least one of said snapshots, a method of updating said summary map, said method including

while generating a consistency point, selecting a set of blocks maintained by said file system and updating only a portion of said summary map corresponding to said set of blocks.

37. (Original) In a file system including an active map of information indicating in-use and free blocks, and said file system maintaining a set of snapshots, each snapshot including a representation of said file system as it was at an earlier time, said file system maintaining a summary map in response to at least one copy of an earlier active map included in at least one of said snapshots, a method of updating said summary map, said method including

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refraining from indicating a selected block as free in response to whether said selected block is included in said copy of an earlier active map.

38. (Original) In a file system including an active map of information indicating in-use and free blocks, a method of updating said active map, said method including

maintaining a plurality of copies of said active map, at least a first said copy being a substantially true representation of in-use and free blocks, and at least a second said copy being a representation of in-use and free blocks which reflects fewer free blocks than said first copy;

and

wherein said second copy refrains from indicating a selected block as free until after a next consistency point is completed.

39. (Original) A method as in claim 38, including

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swapping said second copy with said first copy after said consistency point is